usually fall quickly. At present the value of EBV serological studies in routine diagnosis has not been clarified.

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REFERENCES

Porter DD, Wimberly I, Benyesh-Melnick M: Prevalence of antibodies to EB virus and other herpes viruses. JAMA 208:1675-1679, June 2, 1969

Klein G: Some immunological studies, chap 16, *In* Burkitt DP, Wright DH (Eds): Burkitt's Lymphoma. Edinburgh and London, E & S Livingstone, 1970, pp 172-185

Computer-Based Inventory and Information Systems for Blood Banks

The availability of blood and blood products in sufficient quantities is an essential component in the delivery of health care. The regional blood bank is concerned with input of blood (donor recruitment), distribution of blood (inventory control and component preparation) and use or disposition of blood. These functions can be greatly facilitated by the application of a computer-based information system. Systems utilizing either dedicated or time-sharing computers are now available which offer: donor files with automatic call-up to actively control blood input, minimizing shortages without incurring excessive outdating; inventory programs to track the blood in the system using critical parameters such as location, ABO and Rh type, and days remaining before expiration; and a donor-patient link to simplify control of problems such as transfusion hepatitis. Statistical summaries and management reports produced by the computer provide a means to develop strategies which maximize the use of the community blood resources. It is too early to assess the cost-effectiveness of these systems, but experience indicates that the added cost will result in significant improvement in blood bank services.

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REFERENCES

Jennings JB: An analysis of hospital blood bank whole blood inventory control policies. Transfusion 8:335-342, 1968

Masouredis SP, Roseth DR, Stelloh RT, et al: Development of an automated blood inventory and information system for a regional transfusion service. Transfusion 10:182-193, 1970

Slow Virus Infection of Nervous Tissue

One of the most exciting advances in neuropathology was the demonstration by Gajdusek et al (1967) and Gibbs and Gajdusek (1969) that two subacute progressive "degenerative" diseases of the human nervous system, namely Kuru and Creutzfeldt-Jakob disease, could be transmitted to chimpanzees. After an incubation time of from one to two years in the animals a slowly progressive encephalopathy developed that mimicked the corresponding human disease. The pathologic changes of these diseases are remarkable in that there are no inflammatory reactions. Intense gliosis and vacuolar degeneration of nerve cells are characteristic findings. A similar subacute spongiform encephalopathy, namely scrapie, is known to occur in sheep. The agents inducing these encephalopathic conditions have not yet been identified. The unusual characteristics of the scrapie agent suggest a structure akin to plasma membranes. Electron microscopy supports this theory by revealing abnormal collections of membranes in vacuolated neuronal processes. There is reason to believe that other degenerative diseases of the nervous system may also be caused by slow virus infections.

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REFERENCES

Gajdusek DC, Gibbs CJ, Alpers M: Experimental transmission of a kuru-like syndrome to chimpanzees. Nature 209:794-796, 1966

Gibbs CJ, Gajdusek DC: Infection as the etiology of spongiform encephalopathy. Science 165:1023-1025, 1968

Field EJ: Slow virus infections of the nervous system. Int Rev Exp Path 8:129-239, 1969

Prevention of Viral Hepatitis

In 1970, the national cooperative study of post-transfusion hepatitis reported that 30 ml of gamma globulin following transfusion failed to prevent or modify either short (IH) or long incubation (SH) disease. However, globulin does pre-

vent or modify IH following oral exposure and, in one study, serum containing a mixture of globulin and the IH agent produced no disease when given parenterally. The neutralization of the virus before injection may have been critical to this result. For IH post-exposure prophylaxis, an adult should receive 2 ml and a child 1 ml. Current evidence suggests that globulin provides poor, if any, protection against parenteral exposure to the SH (Australia antigen-positive) agent. Antibody to the Australia antigen has not been detected in the commercial globulin.

Screening blood donors by Au antigen testing will probably reduce transfusion hepatitis about 30 percent. Rigid donor selection would be more effective than Au antigen testing.

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REFERENCES

Grady GF, Chalmers TC, Kern F, et al: Prevention of post-transfusion hepatitis by gamma globulin. JAMA 214:140-142, Oct 5, 1970

Krugman S, Giles JP: Viral hepatitis: New light on an old disease. JAMA 212:1019-1029, May 11, 1970

Platelet Typing

Platelet typing has developed rapidly during the past two years with the introduction and international standardization of microcomplement fixation methods. Almost all the histocompatibility antigens known on lymphocytes have been identified on platelets. Of the four additional platelet specific antigen systems identified only the Pl^A and Pl^E have been implicated in transfusion and neonatal thrombocytopenias. The sera from a large proportion of persons receiving more than ten transfusions, and of sera of women in late pregnancy have antibodies, often multispecific, against histocompatibility antigens on platelets and lymphocytes. Antibodies for platelet antigen systems other than HL-A are less common. Production of thrombocytopenia and rapid destruction of transfused platelets by these isoantibodies have been clearly demonstrated; while transfused "matched" platelets have a considerably longer survival in the recipient. Present practical considerations limit the clinical application of platelet typing. Entirely compatible donors, except for family members, are relatively rare; however, complete compatibility may not be necessary. The present ability to store viable platelets for a few days makes routine use of "matched" platelets more feasible than heretofore. Current development of more sensitive and practical methods will considerably expand the diagnostic and therapeutic capabilities in thrombocytopenic disorders of immune origin.

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REFERENCES

Shulman NR, Marder VJ, Hiller MC, et al: Platelet and leukocyte isoantigens and their antibodies: Serologic, physiologic, and clinical studies. Progr Hemat 4:222-304, 1964

Colombani J, D'Amaro J, Gabb B, et al: International agreement on a micro complement fixation test. Transplantation Proceedings (in press)

Prenatal Diagnosis of Genetic Disease

Cells obtained from amniotic fluid and cultured by tissue-culture methods can be used for diagnosing some genetic diseases in utero. The sex of the fetus and the chromosome constitution can be readily ascertained by this method. It is also possible to diagnose certain inborn errors of metabolism by testing the cultured cells for enzyme deficiencies or accumulated abnormal substances.

Amniotic fluid can be obtained by transabdominal amniocentesis; it is generally recommended that 14 to 16 weeks gestation is the optimum time.

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REFERENCES

Milunsky A, Littlefield JW, Kanfer JN, et al: Prenatal genetic diagnosis. New Eng J Med 283:1370-1381, 1441-1447, 1498-1504, 1970

Herpes Virus

Renewed interest in herpes viruses as human pathogens stems from their possible roles in cancer and in infectious mononucleosis.

Herpes simplex virus occurs in at least two serological types, I and II. The former produces the common "cold sore." The latter produces cervical, vulvar and sometimes penile acute lesions.